

DEPARTMENT OF GEOLOGY ANNUAL REPORT 1988-89

by

Dr. K.K. Mukherji, Chair

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1988-89 academic year marked partial success in bringing about a new atmosphere of mutual cooperation among faculty, staff and students. The report attempts to highlight important observations on operational and academic aspect of the department.

1. Consolidation of Department Operation

Following the lead of previous years, further consolidation of departmental operation at Loyola Campus is achieved. Only 11 courses were offered at SGW Campus. Except for two courses, all laboratory instructions were given at Loyola. Also, arrangement is underway to transfer geology collection from the SEL to the Vanier Library.

2. Theft

In recent years theft of equipment has become a matter of major concern. Last April faculty computer was stolen from the department. The department has filed replacement claim with the university insurance agent. Security alarm system will be installed in two major equipment housing areas.

3. External Technical Service

Department extended technical services to Mr. C.J. Corbeil for the preparation of polished slabs and thin sections. This provided an additional revenue of \$1949 to departmental operating budget.

4. Non-teaching staff

There has been no change in the number of non-teaching personnel.

Duties of Mr. M. Kwiatkowski (technician) were restructured, as a result he provided a much needed and invaluable technical assistance to faculty members in the preparation of research publications. Mr. Kwiatkowski rendered 340 hours of drafting and photographic support to departmental faculty members and students.

5. Faculty

After serving two years as department chair, Dr. G.P. Sassano went on sabbatical leave during 1988/89. Dr. Sassano spent a part of his leave in Italy on research related activities. Dr. K.K. Mukherji was appointed as acting chair. Five full-time faculty members taught 18

courses with a total of 60 credits. Six part-time instructors were appointed to teach 10 courses constituting 30 credits.

✓6. Enrollment

67 students were registered in departmental programmes (88/89). This represents 29.5% decrease in enrollment from the 1987/88 registration. It is important to note that in the same period Canadian Earth Science Departments registered a drop of 29% in undergraduate enrollment from 1987/88 national figure (CCESD April '89 Rept). Total departmental registration in general interest earth science courses stood at 466, showing 4.3% increase from the previous (87/88) year.

Unfavourable employment situation due to discontinuation of flow-through share scheme, uncertain nature of the newly implemented CEIP programme, exclusion of earth science from the secondary high school curriculum, and lack of appeal for arduous life in remote areas are possible reasons for the national decline in earth science students.

✓7. Programmes and Graduation

Geology specialization programmes with Chemistry and Physics failed to attract new students for the second consecutive year. 25 students graduated from the department in 1988/89. 18 students of the graduating class undertook programmes with concentration in Geology, while 7 others opted for geology based interdisciplinary programmes (Ecology or Resource Analysis and Land Use).

8. Awards

Mr. R. Roy received 1988 Andre Deland medal in Geology. Mr. K. Sears won the much coveted NSERC scholarship for graduate study in Geology. Mr. G. Nassif was selected for 1988 Student Industry Field Trip award by the Canadian Society of Petroleum Geologists. Stanley Slipper CSPG Membership prize was given to Mr. P. Barry (3rd year). Ms. V. Bodycomb (2nd year) was the recipient of 1988 MAC membership award.

9. Public Exhibition

The department participated in the Concordia Science Exhibition at Stewart Hall in Pointe Claire during the weekend of Nov. 5 and 6, 1988. Geology displays were organized into three themes: 1) Treasures of the Earth, 2) Life of the Past and 3) Remote Sensing.

10. Seminars

Four seminars on contemporary topics in geology were organized by the department. Most of these talks were announced within and outside Concordia University. Name of

guest speakers and seminar titles are shown below:

- a) Dr. A. Abdel-Rahman (McGill University). Petrological, and Geochemical Evolution of Felsic Alkaline Magmas.
- b) Dr. Chen Kerong (Nanjing University). The Mesozoic Volcanism and the Pb-Zn Metallogeny on the Coast of SE Zhejiang Province.
- c) Mr. B. Chanda (Director, IOC). Minerals for New Materials.
- d) Mr. G. Nassif (McGill University). Western Canada Geotraverse.

11. Annual Field Trip

Geology Club ran a successful 3 day field trip from Montreal to Eganville, Ontario during Oct. 1, 2 and 3. Profs. Jenkins and Mukherji helped students in the initial stage of preparation for the event and participated on all three days of the tour.

On the first day, the group examined various intrusive bodies at Ile Bizard, Chatham and Oka. Second day included field study of the Black River-Trenton sedimentary units around Arnprior and examination of Bonnechere Cave. A visit to the Museum of Natural Science in Ottawa, inspection of Paleozoic/Precambrian unconformity in Hull, and field inspection of Grenville skarns around Buckingham concluded the final day of the annual tour.

12. PDA Meeting

Geology students participated at the Prospectors and Developers Association's annual meeting in Toronto on March 5, 6, 7 and 8th. Department provided partial technical support for the preparation of geology displays by the Geology Club. Dept. Chair represented the University on first three days of the conference. Chair's discussion with various mining company executives netted three summer jobs for the students.

13. GAC-MAC Annual Meeting

Geology Departments of Montreal Universities jointly hosted the 1989 Annual Meeting of GAC and MAC. The event was held at the Convention Centre on May 15, 16 and 17. Prof. Jenkins, Kumarapeli and Mukherji were members of the Local Organizing Committee and assumed chief responsibilities for publicity, registration and transportation, respectively. The meeting was attended by 1421 delegates. Ms. Bertrand (Dept. Secretary), and departmental technicians, Mr. Kwiatkowski and Mr. Paventi also gave helpful support with registration, transportation and publicity during the conference.

14. Alumni Reunion

First alumni reunion of the department took place on May 15th at the SGW faculty club. 65 people representing departmental teaching and non-teaching staff, geology club executives, administrative corps, and past graduates (45) attended the event.

15. Research Grants

Despite attempts by various faculty members, department failed to improve its share of external funding for research. Dr. K. St. Seymour (Adjunct Asst. Professor) had the 3rd year of her three year grant (\$11,680) renewed by the NSERC. Atomic Energy Control Board and New Brunswick Department of Natural Resources jointly sponsored a contract research grant of \$15,000 to Dr. S. Kumarapeli. Drs. Kuamrapeli and St. Seymour were given \$1200 and \$2000 respectively, from Concordia General Research Fund.

16. Departmental Meetings

Department held 11 general and 3 special meetings to discuss issues and execute various business during 1988-89 academic year. Minutes of meetings are kept in departmental file.

17. Research Publications (Full-Time Faculty Members)

S. Kumarapeli

St. Seymour, K., A. Turek, R. Doig, P.S. Kumarapeli and R. Fogal, 1989. First U-Pb zircon ages of granitoid plutons from the La Grande Greenstone Belt, James Bay area, New Quebec. Canadian Journal of Earth Sciences. Accepted for publication, Oct. 1988.

Kumarapeli, P.S., Karen St. Seymour, Hillar Pintson and Elizabeth Hasselgren, 1988. Volcanism on the passive margin of Laurentia: an Early Paleozoic analogue of Cretaceous volcanism on the northeastern American margin. Canadian Journal of Earth Science, vol. 25, 12: 1824-1833.

St. Seymour, Karen, P.S. Kumarapeli and D. Vlassopoulos, 1988. Petrotectonics of Archean Yasinski metabasalts, Superior Province, Canada: Implications for genesis of Archaean Greenstone belts. Neues Jahrbuch fur Geologie und Paleontologie. Abh 177: 165-183.

St. Seymour, Karen, Paul Budkewitsch and P. Stephen Kumarapeli, 1988. The petroctectonic environment of basalts of Point and Redrock Lakes, Slave Province, N.W.T. Contribution to the Geology of Northwest Territories, v. 3, pp. 103-114.

K.K. Mukherji

T.K. Mallik, K.K. Mukherji and K.K. Ramachandran, 1988. Sedimentology of the Kerala Mud Banks (Fluid Muds?). Marine Geology, v. 80, pp. 99-118.

G.P. Sassano

G.P. Sassano and K. Schrijver, 1989. Framboidal Pyrite: Early diagenetic, late-diagenetic and hydrothermal occurrences from the Acton Vale Quarry, Cambro-Ordovician, Quebec. Am. Journal of Science, vol. 289, p. 167-179.

Sassano, G.P., Procyshyn, E., 1988. Mineralogy and paragenesis of the Cupriferous Deposits of the Acton Vale-Upton Sector, Klippen Belt, Quebec. Mineralium Deposita, 23, pp. 123-131.

Sassano, G.P., 1988. "Geologia Economica e Giacimenti Minerari: Chiandetti Editore, Udine, Italia.

18. Research Publications (Adjunct and Part-time Faculty)

E.L. Procyshyn

Sassano, G., and Procyshyn, E.L., 1988. Mineralogy and paragenesis of the Cupriferous Deposits of Acton Vale-Upton Sector, Klippen Belt, Quebec: Mineral. Deposita 23, 123-121.

K. St. Seymour

K. St. Seymour, Paul Budkewitsch and Stephen Kumarapeli, 1988. The petrotectonic environment of basalts of Point and Redrock Lakes, Slave Province, N.W.T. Contributions to the Geology of the Northwest Territories, vol. 3, pp. 103-114.

Karen St. Seymour and Don Francis, 1988. Magmatic interaction between mantle and crust during the evolution of the Archean Lac Guyer Greenstone Belt, New Quebec. Canadian Journal of Earth Sciences, 25, 691-700.

Karen St. Seymour, Stephen Kumarapeli and Dimitrios Vlassopoulos, 1988. Petrotectonics of Archean Yasinski metabasalts Superior Province, Canada: Implications on the genesis of Archean Greenstone Belts, Neues Jarbuch fur Mineralogie, vol. 177, pp. 165-183.

Stephen Kumarapeli, Karen St. Seymour, Hillar Pintson and Elizabeth Hasselgren, 1988. Volcanism on the passive margin of Laurentia: an early Paleozoic analogue of Cretaceous volcanism on the northeastern American margin. Can. Journal of Earth Sciences, vol. 25, pp. 1824-1833.

Karen St. Seymour and D. Vlassopoulos, 1989. The potential of explosive volcanism associated with dome growth at Nisyros, Aegean volcanic arc, Greece. Journal of Volcanology and Geothermal Research (accepted for publication).

Karen St. Seymour, A. Turek, R. Doig, S. Kumarapeli, R. Fogal, 1988. U-Pb and Rb-Sr geochronology of granitoid plutons from the La Grande Greenstone Belt James Bay area, New Quebec. Can. Journal of Earth Sciences (in press).

19. Conference Presentation or Abstracts

(Full-time faculty, Adjunct and Part-time teaching staff)

E.L. Procyshyn

E.L. Procyshyn, W.C. Sinclair and A.E. Williams-Jones, 1987. Mineral deposits associated with Siluro-Devonian plutonism in the New Brunswick-Gaspe sector: GAC Field Trip Guide B5, 117p.

S.P. Kumarapeli

S.P. Kumarapeli, 1988. Tanlu fracture Zone, East China: 4th International Terrane Conference, Nanjing University, PRC

Kumarapeli, Stephen, Hoy, Larry, and Pintson, Hillar, 1989. Origin of Cu and Cu-Ba mineralization in the Acton Vale limestone, south eastern Quebec: Evidence from sulphur and strontium isotopes: Abstract GAC-MAC annual meeting, Montreal, pp. A121.

Kumarapeli, Stephen, Pintson, Hillar and Dunning, Greg, R., 1989. Age of the Tibbit Hill Formation and its implication on the timing of Iapetan rifting: Abstract. GAC-MAC annual meeting Montreal, pp. A125.

Kumarapeli, Stephen and Pintson, Hillar, 1989. Geochronologic constraints on the timing of rifting and continental breakup at the Sutton Mountain triple junction: Abstract, Appalachian Workshop, University of Vermont, Burlington.

G.P. Sassano

Sassano, G.P., 1988. Deforestation and acid rain in North America: A Vital Concern: Can. Ac. c. Rome, Italy.

Sassano, G.P., 1988. Meraviglie geologiche e civita antiche nel cuore d'italia: Corriere Italiano.

K. St. Seymour

St. Seymour, Karen and Vlassopoulos, Dimitrios, 1989. Geochemical evolution of Nisyros volcano, Aegean Island Arc, Greece: Abstract. American Geophysical Union, vol. 70.

St. Seymour, Karen, 1989. Monitoring of pre- and post calderan magma chamber, Aegean Volcanic Arch, Greece: Abstract. GAC-MAC annual meeting, Montreal, pp. A122.